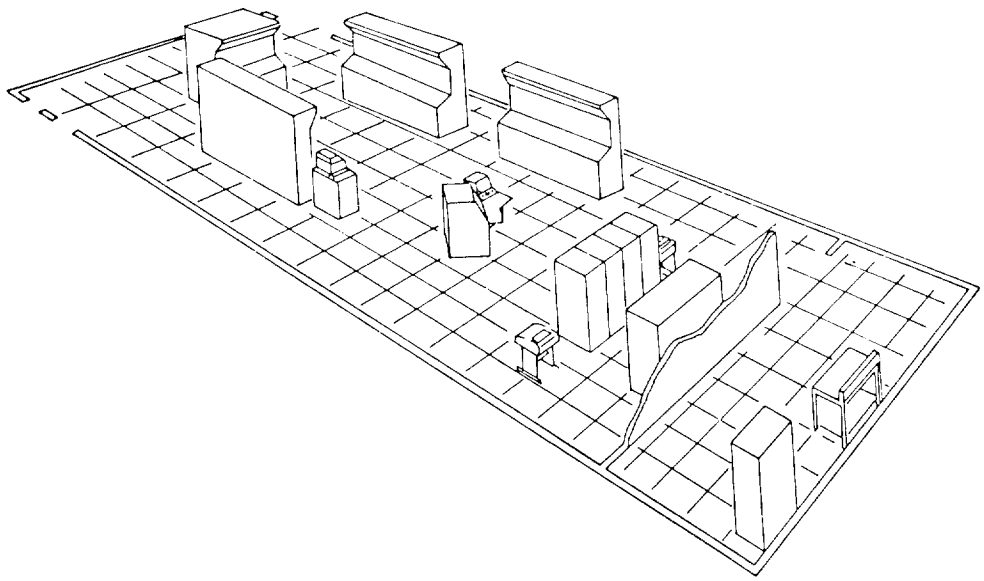

FFG-7 PROPULSION ENG CONTROL SYSTEM (PECS), OPER TRAINER, DEVICE 20H6A

TRAINING CATEGORY:

SURFACE OPERATIONS (SHIP) (Misc)

ORIGINATING AGENCY:

CNET

SECURITY CLASSIFICATION:

Device 20H6A is unclassified.

PURPOSE:

To provide training in normal and casualty operational procedures for PERRY-Class frigate PECS operators.

INTENDED USE:

A permanently installed training facility used to qualify operator personnel on the PECS stations.

FUNCTIONAL DESCRIPTION:

The FFG-7 PECS Operational Trainer, Device 20H6A, is a one (1) room training facility. The device contains four (4) simulated shipboard consoles and related equipment, stimulated by a specially programmed digital computer through an I/O interface. The consoles are: Propulsion Control Console (PCC), Electrical Plant Control Console (EPCC), Auxiliary Control Console (ACC) and Local Operating Panel (LOP/Local Operating Station Instrument Panel (LOSIP). The only shipboard equipment used also in the trainer is the Data Logger.

Instrument movements and responses closely simulate the actual movements and responses of a PECS in all situations and modes.

The PCC, EPCC, ACC and Data Logger are all located in the Central Control Station (CCS) aboard ship and are arranged in the trainer as aboard the frigate. The LOP and LOSIP (located near the engine aboard ship) are in the same training room but separated from CCS equipment.

The computer and peripheral equipment (computer complex) are grouped together in the trainer. A two (2) channel audio intercom system connects trainee and instructor consoles and the computer complex.

The training environment is controlled and trainee responses are evaluated from an instructor's console, in view of all trainee stations. Control functions normally located at the ship's bridge are located at the instructor station. The capabilities of the instructor/operator include engine control transfer, initial problem selection through choice of operating parameters (initial conditions), and insertion of casualties. Trainer operation can be frozen, or reset to the beginning of the exercise. Provisions have also been made for storing parameters (snapshots) to allow the instructor to return the trainer to a chosen point in time.

The PECS trainer is capable of operating in two (2) modes: normal and casualty. In the normal mode, all ship systems operate without machinery casualties. In the casualty mode, ship system equipment casualties may be selected by the instructor/operator to assess trainee proficiency and operating technique.

POWER REQUIREMENTS:

Input Characteristics:

120/208 VAC, 60 Hz, 30 KVA, Three-Phase, 4-Wire wye, grounded neutral.

Maximum Starting Power:

27.31 KVA, 75.8 amps/phase

INSTALLATION REQUIREMENTS:

Minimum Installation Area:

1,155 Sq. Ft, plus storage area and office maintenance work area, to be determined by user.

Air Conditioning: 96,080 BTU/Hr; 10 Tons

Floor Loading: 225 lbs/Sq. Ft. maximum

The PECS trainer requires an 18" raised floor to provide space for cables and the ground reference plane. Ceiling height must be at least 9' above this access floor.

PUBLICATIONS FURNISHED:

1. Operation and Maintenance Instructions Manual with Parts Catalog, NAVTRADEV P-4933
2. Planned Maintenance System (PMS) Documentation, NAVTRADEV P-4934
3. Commercial Computer Documentation Set, NAVTRADEV P-4935

PERSONNEL:

Instructors: Two (2) Officers

Operators: Instructor-Operated

Trainees: Twelve (12)

Maintenance: Two (2) TD2 or below with device. One (1) computer/programmer specialist on call. One (1) TD1 or above on call.

CONTRACT IDENTIFICATION:

Manufactured by the Singer Company, Link Simulation Systems Division, Silver Spring, MD under NAVTRASYSCEN Contract No. N61339-81-C-0019.

LOCAL STOCK NUMBER:

6930-LL-C00-6011